



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

PRELIMINARY ISSUE

D130-1048-141
Job Sheet 182065

Accounting Job RD17-1048-01



Part No: D130-1048-141

Job Qty: 1 ea

Part Name: EC130 Fwd Crosstube



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 8/16/18

Job Tracking No:

POSITIVE RECALL

Due Date: 8/30/18

Created By: Marie Lajeunesse

EFFECTIVE 21 SEP 28 018

Type: R+D

Description:

RELEASED 21 SEP 28 018 DATE 18-10-05

Note: D130-1048-141 REV.PRELIM-A7 IPP REV:A 18.07.19 NEW ISSUE DD VERF:JFS

Ship Via:

Rev A
ECW18-81

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
100	Start up Operation	1 Ea		8/30/18	0.00	0.00	Start Up Crosstubes-2		GP 2018-09-26
110	Crosstubes	1 pcs		8/30/18	0.00	1.00	Crosstubes-3		GP 2018-09-26
120	QC	1 pcs		8/30/18	0.00	0.00	QC15		-
130	Outsource	1 pcs		8/30/18	0.00	0.00	Outsource2		GT 18-9-25
140	Packaging	1 pcs		8/30/18	0.00	0.00	Packaging2		SEP 27 2018
150	QC	1 pcs		8/30/18	0.00	0.00	QC6		18-09-28
160	Crosstubes	1 pcs		8/30/18	0.00	1.00	Crosstubes-3		18-10-05
170	QC	1 pcs		8/30/18	0.00	0.00	QC15		OCT 04 2018 68
172	Outsource	1 pcs		8/30/18	0.00	0.00	Outsource2		N/A 9-89
174	Packaging	1 pcs		8/30/18	0.00	0.00	Packaging2		N/A
176	QC	1 pcs		8/30/18	0.00	0.00	QC6		N/A
180	HandFinish	1 pcs		8/30/18	0.00	0.33	HandFinish1		N/A
185	QC	1 pcs		8/30/18	0.00	0.00	QC7-5		N/A
190	SprayPaint	1 pcs		8/30/18	0.00	1.00	Spray Paint		N/A
200	QC	1 pcs		8/30/18	0.00	0.00	QC14		N/A
210	Packaging	1 pcs		8/30/18	0.00	0.00	Packaging3-2		N/A
220	QC21-SA	1 Ea		8/30/18	0.00	0.00	QC21		

DAS
13
9-89

Not
reg'd
for
testing
18.10.03

Part Op 110 - BUFF AND REMOVE ALL MARK AS PER DWG

Descriptions: 130 - ISSUE P/O: 04/11/20 NDT C OF C IS REQUIRED

160 - 1-Drill rivet holes in cuff using DT10428 as per DWG sections D-D and E-E. ***Use DT8550 as center support ***
2-Drill and ream holes sections B-B as per DWG using DT10436 3-Drill and ream holes sections C-C as per DWG using DT10436 4-Deburr as per DWG. 5-Grind tube lightly if required to remove any marks left from the drilling process.

172 - Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order
174 - Ensure copy of NDT results attached to work order.

180 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

185 - *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE***

190 - ***MASK PRIOR TO PRIME AND PAINT AS PER NOTE 9*** *** WEAR LATEX GLOVES WHEN HANDLING CROSSTUBE*** 1- PRIME INSIDE AND OUTSIDE PER QSI005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER)

BATCH: 2- PAINT OUTSIDE SURFACE AS PER QSI005 4.2.2.4 (FLOAT SKIDTUBE PAINT)

BATCH:

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D5609-1	EC130 Fwd Crosstube	1 Ea (1 ea)	100-Start up Operation	5111230 182095

DQA:

Date: _____



QA C

W:

Date :

Date: 09/27/18

WORK ORDER NON-CONFORMANCE / UPDATE

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Work Order update only ☐

Container No: S112050



Part: D130-1048-141

Job No: 182065

Serial No/Batch: S112050

Revision: A7

Inspector:

Exp Date:

Instructions:

ork ☐
rap ☐
as-is ☐
oved ☐

Skid-tube ☐
Machining ☐
Thermoforming ☐
Large Fab ☐

Cross tube ☐
Small Fab ☐
Finishing ☐
Composite ☐

Water Jet ☐
Prod. Eng. Coord. ☐
Rec/Store/Packaging ☐
Supplier ☐

Engineering ☐
Quality ☐
Other ☐

QTY Effective :

MRB (QS1042) Approval

Description Work Order Deviation

Disposition

Completed By

Lead hand / Supervisor
Approval VerificationQC / QA Coordinator
Approval

Root Cause

FAULT CATEGORY

Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐				
Misidentified ☐	Past Due ☐	OTHER :			

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
100-Start up Operation	D5609-1	1	0	0

Part Specifications

Specifications could not be found.

Plex 9/24/18 2:41 PM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

Specifications could not be found.



Container No: S112050



Part: D130-1048-141

Job No: 182065

Serial No/Batch: S112050

Revision: A6

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Howesbury, ON K64 1K7
CANADA
TEL.: 1 813 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Plex 8/17/18 8:36 AM Dart.lajeunesse.marie

Date: 09/20/18

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

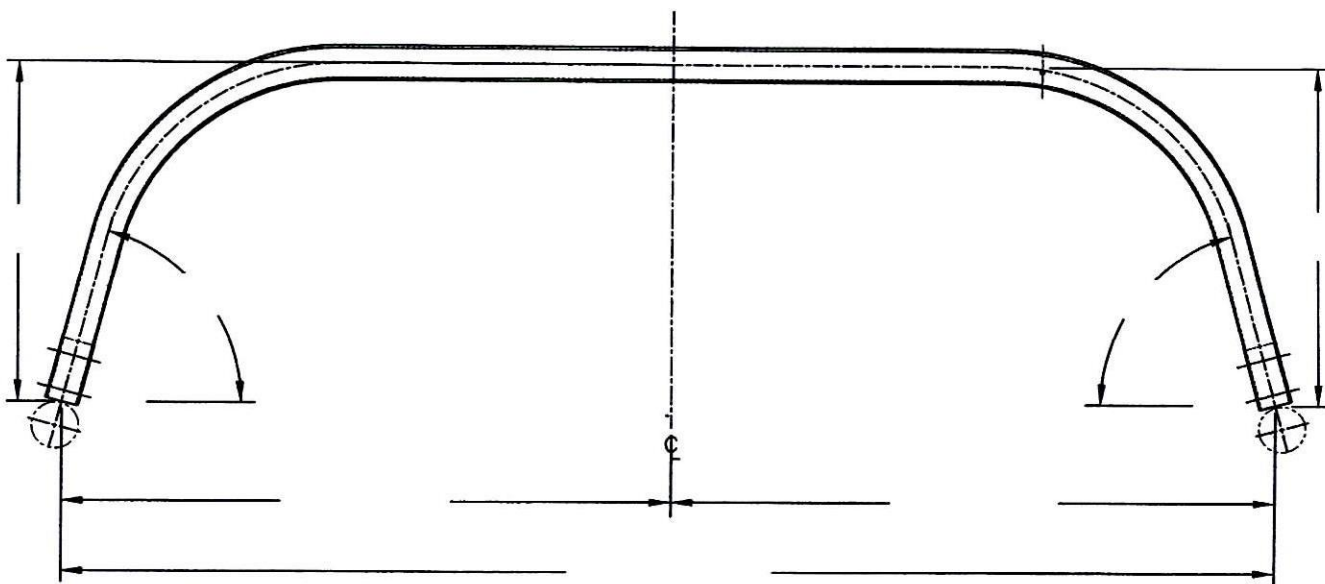
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation			Disposition		
			Completed By		
			Lead hand / Supervisor Approval Verification		
			QC / QA Coordinator Approval		
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					

DART AEROSPACE LTD		Work Order:	182065
Description:		Part Number:	
Inspection Dwg:	Rev:		Page 1 of 1

Required Dimension	Min	Max
Height		
1/2 Span		
Angle		
Total Span		
Bending Passes		
Crushing		



	Side A	Side B
Bending Passes		
Crushing		
Comments		

QC15 Inspection	
Date	

Rev	Date	Change	Revised by	Approved
A		New Issue		
B	06.09.19	Reformat; QC level revised	KJ/JM	
C	07.02.06	Reformat	KJ/JM	
D	12.02.15	Added bending passes and crushing	KJ	
E	12.03.07	Revised comments table	KJ	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

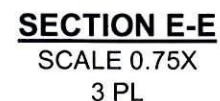
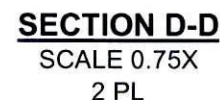
QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			Completed By
					Lead hand / Supervisor Approval Verification
					QC / QA Coordinator Approval
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					



5112050



NOTES:

- 1) MATERIAL: MAKE FROM D5609-1
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER)
PAINT OUTSIDE PER DART QSI 005 4.2.2.4 (FLOAT SKIDTUBE PAINT)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: SCRIBE DART P/N "D130-1048-141" AND S/N PER DART QSI 044 6.4 (VIBRATING STYLUS) ON INSIDE OF CUFF
- 7) WEIGHT: 17.34 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE
- 9) MASK THESE HOLES PRIOR TO PRIME/PAINT
- 10) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038 PRIOR TO DRILLING.

PRELIMINARY ISSUE

A	NEW ISSUE	ZF	18.06.07
REV.	DESCRIPTION		DATE
DESIGN	NO	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	ZF		
CHECKED	MW	DRAWING NO.	REV. A
MFG. APPR.	JFS	D130-1048-141	SHEET 1 OF
APPROVED	NO	TITLE	SCALE
DE APPR.	CP	FWD X-TUBE (EC130)	NTS
DATE	18.06.07	COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION OF DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO041100**

Supplier: SKY002-VC
Skyservice
6120 Midfield Road
Mississauga
ON
L5P 1B1 Canada
Phone: 905-678-5636
Fax: 905-678-5841

PO No: PO041100
PO Date: 9/21/18
Due Date: 9/25/18
Purchase Order
Revision:
Revision Date:
Ship-To Contact: Phone:

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pynt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	182067	D130-1048-141	EC130 Fwd Crosstube ISSUE P/O: _____ NDT C OF C IS REQUIRED	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
			1 X SEP 27 2018								
	182064		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182059		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
	182065		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							4	0	4		\$535.00
2	182415	D130-1048-042	EC130 Skidtube Assembly, RH Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
			1 X SEP 27 2018								
	182418		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							2	0	2		\$267.50
3	182412	D130-1048-041	EC130 Skidtube Assembly, LH Liquid Penetrant Inspection as per QSI 038 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
			1 X SEP 27 2018								
	182413		1 X SEP 27 2018	Firmed	-	9/27/18	1 pcs	0 pcs	1 pcs	\$133.75/pcs	\$133.75
Sub Total:							2	0	2		\$267.50
Grand Total:										\$1,070.00	

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 9/27/18 10:09 AM dart.tsimiklis.chrisoula

**skyservice****Work Order Traveler**

Sky Service F.B.O. Inc.

10105 Ryan Avenue, Dorval, Quebec, H9P 1A2

TCCA AMO 53-89 / EASA 145.7142 / BDA AMO 385

WO #: MWO37535	Customer: Dart Aerospace Ltd.	Dept: NDT YUL	Reference: PO041100
Descr:	PN:	S/N:	Qty: 1
Make:	Model:	Reg:	A/C S/N:
TSN:	CSN:	TSO:	
Task: UNSCHEDULED			Sequence: 1

Work Required:**CARRY OUT NDT ON:**

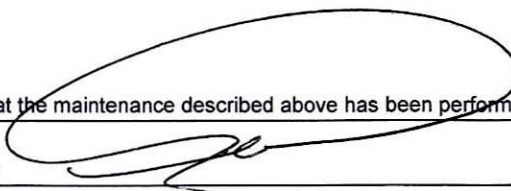
4 EC 130 FWD CROSSTUBES , P/N# D130-1048-141 , J/S# 182059 , 182064 , 182065 , 182067

2 EC 130 SKIDTUBE ASSY RH , P/N# D130-1048-042 , J/S# 182418 , 182419

2 EC 130 SKIDTUBE ASSY LH , P/N# D130-1048-041 , J/S# 182412 , 182413

Action Taken:						Date:	Initial/Stamp:
LPI C/O IAW ASTM E-1417 REV. 16						SEP 21 2018	 
NO CRACK FOUND							
PEN. ZL-56, MPO13600, CLEANER SKC-S MPO13923 , DEV. MPO11715 , UV LIGHT M-20142							
<i>Description</i>	<i>Location</i>	<i>P/N</i>	<i>Qty</i>	<i>Batch</i>	<i>S/N Off</i>	<i>S/N On</i>	

I certified that the maintenance described above has been performed in accordance with the applicable standard of airworthiness.

Signature: 	ACA/SCA Stamp 	Date: SEP 21 2018
Name: RAFIK MELIKIAN		



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER PO041261

Supplier: ATE003-VC
Atelier Debosselage
358 Principale
Calumet
QC
J0V 1B0 Canada
Phone: 819 242 5633

PO No: PO041261
PO Date: 10/4/18
Due Date: 10/5/18
**Purchase Order
Revision:**
Revision Date:
Ship-To Contact: Lavoie, Chantal
Phone: clavoie@dartaero.com

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1			Paint d130- 1048 crosstube	OUTSIDE SERVICES		Firmed	71900-200-0000	10/5/18	4 Ea	0 Ea	4 Ea	\$250.00/Ea	\$1,000.00
2			Paint d130- 1048 skidtube	OUTSIDE SERVICES		Firmed	71900-200-0000	10/5/18	2 Ea	0 Ea	2 Ea	\$250.00/Ea	\$500.00
3			Paint saddle	OUTSIDE SERVICES		Firmed	71900-200-0000	10/5/18	4 Ea	0 Ea	4 Ea	\$40.00/Ea	\$160.00
Grand Total:												\$1,660.00	

Order Notes

Plex 10/4/18 3:24 PM dart.lavoie.chantal

Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: <u>182065</u> Part No. <u>D130-1048-141</u>	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒	DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☒ Water Jet ☐ Supplier ☐ Quality ☐			
Date: <u>18/10/13</u>	Sequence #: _____	QTY Affected : _____		MRB (QSI042) DAS 12 9-89 <u>18/10/13</u>	
Description Work Order Deviation - Primed on inside only. Prime was outsourced and is representative only. - 2nd LPI (step 172) not required.		Disposition Prime inside of cuff: P/O <u>P0041261</u> Acceptable to have representative prime only. 2nd LPI not required. No effect on Eng. Test.		Completed By DAS 12 9-89 <u>18/10/13</u> Lead hand / Supervisor DAS 9 9-89 <u>18-10-04</u> QC / QA Coordinator DAS 9 9-89 <u>18-10-04</u>	
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐		FAULT CATEGORY Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread ☐			
Other/Details: _____					

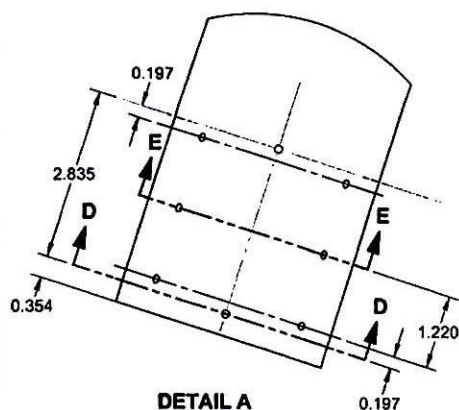
DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

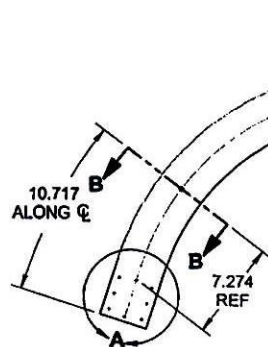
QA Closed: _____ Date: _____

Work Order update only ☐

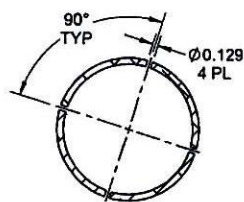
Work Order: <u>132065</u> Part No. <u>D80-1043-141</u> NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
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Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval DAS 12 9-89 <u>18/10/5</u> Completed By DAS 12 9-89 <u>18/10/5</u> Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																			
Description Work Order Deviation				Disposition																					
- Dimension 7.274" is 7.483 and on the other side is 7.469 - Dimension .354" is .325"				Acceptable. No effect on test.																					
Root Cause		FAULT CATEGORY																							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐																				
Design ☐	☒ Operator	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐																				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐																				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐																				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐																				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐																				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐																				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐																				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐																				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐																				
Past Expiry Date ☐	Manufacturing Process ☐																								
Misidentified ☐	Past Due ☐	OTHER : _____																							



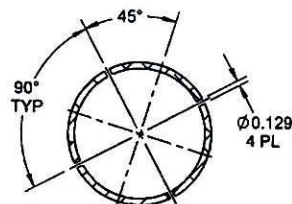
DETAIL A
SCALE 5X



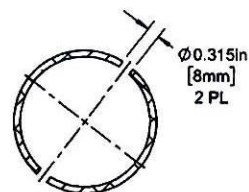
D130-1048-141 FWD X-TUBE (EC130)



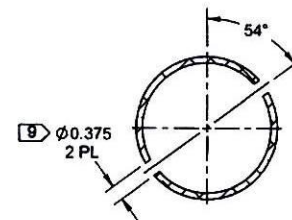
SECTION D-D
SCALE 0.75X
2 PL



SECTION E-E
SCALE 0.75X
3 PL



SECTION B-B
SCALE 3X



SECTION C-C
SCALE 3X

NOTES:

- 1) MATERIAL: MAKE FROM D5609-1
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2.1.3.3 (FLOAT SKIDTUBE PRIMER)
PAINT OUTSIDE PER DART QSI 005 4.2.2.4 (FLOAT SKIDTUBE PAINT)
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: SCRIBE DART P/N "D130-1048-141" AND S/N PER DART QSI 044 6.4 (VIBRATING STYLUS) ON INSIDE OF CUFF
- 7) WEIGHT: 17.34 lbs
- 8) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE
- 9) MASK THESE HOLES PRIOR TO PRIME/PAINT
- 10) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038 PRIOR TO DRILLING.

RELEASED

2018 OCT 02 4P
E-C-N 19-817

APPROVED

A		NEW ISSUE		ZF	18.06.07
REV.	DESCRIPTION	BY	DATE		
DESIGN	NO				
DRAWN	ZF				
CHECKED	MW				
MFG. APPR.	JFS				
APPROVED	NO				
DE APPR.	CP 4P				
DATE	18.06.07				

DART AEROSPACE LTD
HAWKESBURY, ONTARIO, CANADA

DRAWING NO.
D130-1048-141

REV. A
SHEET 1 OF 1

TITLE
FWD X-TUBE (EC130)

SCALE
NTS

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